COPULATION, SPERM TRANSFER AND SPERM STORAGE IN THE KALUTARA SNAIL— ACHATINA FULICA

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Achatina fulica, a cross-fertilising hermaphrodite snail, generally copulates in the early hours of the morning, late evening or at night. They remain paired for varying lengths of time – from 40 m to 4½ h and during this period reciprocal insemination occurs.

The spermatozoa are transferred in a compact mass (spermatophore). Each copulating partner receives a single spermatophore which is deposited in the upper vagina or spermathecal duct.

The spermatophore is smooth, shiny-white, elongate and cylindrical, measuring 0.5-1.5 cm long and 0.2 cm wide. It is not uniform in structure, lacks a distinct continuous outer wall and consists of a mass of spermatozoa with other material in the form of granules of different sizes, thin vermiform strips and thick compact bands. The secretion of the prostate gland forms a part of the granular contents of the spermatophore.

The spermatophore is present in the spermathecal duct upto 26 hours after copulation but not observed at later periods. Some of the spermatozoa leave the spermatophore and enter the seminal receptacle where they are stored, until required at fertilisation, with the tips of the heads embedded in the luminal epithelium of the receptacle. Excess spermatozoa and other material of the spermatophore enter the spermatheca where they become incorporated into the red mass and are also possibly subject to some lytic activity.